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ABSTRACT

Data from this report on sources of new teachers in the United States are from the 1987-88 and 1990-91 Schools and Staffing Survey (SASS) of the National Center for Education Statistics, a multilevel linked survey of public and private schools, school districts, principals, and teachers. As fewer college graduates enter teaching, concerns have risen about possible teacher shortages. The SASS provides information to help in educational planning. In 1990-91, 177,000 teachers were newly hired in the nation's schools, an increase of 33% over 1988. These new hires accounted for 6% of the public teacher workforce and 13% of the private teacher workforce. Between 1988 and 1991 the sources of newly hired teachers shifted as both public and private schools hired relatively fewer reentrants, teachers returning after a break in service, and relatively more first-time teachers. First-time teachers represented about 53% of all public school new hires in 1991, with about 34% being newly prepared teachers and 19% being delayed entrants to teaching. Transfers from other teaching jobs supplied 16% of public and 22% of private new hires. (Contains 3 figures, 18 tables, and 22 references.) (SLD)

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Statistical Analysis Report October 1995

Teacher Supply in the United States: Sources of Newly Hired Teachers in Public and Private Schools, 1988–1991

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Statistical Analysis Report October 1995

Teacher Supply in the United States: Sources of Newly Hired Teachers in Public and Private Schools, 1988–1991

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U.S. Department of Education
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October 1995

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Highlights

- In school year 1990-91, 177,000 teachers were newly hired in the Nation's schools, an increase of 33 percent over 1988. These new hires accounted for 6 percent (134,000) of the public school teacher workforce and 13 percent (43,000) of the private school teacher workforce (table 1).

- Between 1988 and 1991 the sources of newly hired teachers shifted as both public and private schools hired relatively fewer **reentrants,** teachers reentering the profession after a break in service, and relatively more first-time teachers (table 2).

- In 1991 first-time teachers were the primary source of new hires in public schools, accounting for 53 percent of all new hires. In the private sector 42 percent of new hires were first-time teachers. This was a 14 and 11 percentage point increase in the public and private sectors, respectively, from 1988 (table 2).

- In 1991 **reentrants** accounted for 31 percent of the new hires in public schools and 37 percent in private schools. This was an 11 percentage point decrease for public schools and a 9 percentage point decrease for private schools from 1988 (table 2).

- Between 1988 and 1991 there was a relative increase in the hiring of both types of first-time teachers. **newly prepared** college graduates increased to 34 percent of public new hires and 22 percent of private new hires; and **delayed entrants** increased to 19 percent of public and private new hires (table 2).

- The remaining positions were filled by teachers who transferred from teaching positions in other states and/or the other sector. **Transfers** supplied 16 percent of public (22,000) and 22 percent of private (9,400) new hires, the same percentages as in 1988 (table 2).

- Within each sector **newly prepared** teachers, **transfers,** and **reentrants** were about equal in holding the qualifications usually required in that sector for teaching their primary assignment field - in the public sector two-thirds of each group held the standard major or minor with certification, and in the private sector 70 to 75 percent of each group had a major or minor in their primary assignment field. In each sector, **delayed entrants** were less likely to hold these qualifications than other supply sources (table 7).

- Major prior year activities varied by type of newly hired teacher. Substitute teaching was a major prior year activity of public **delayed entrants** and **reentrants.** Private school **delayed entrants** and **reentrants** were more likely to have been working in jobs outside education, and most **newly prepared** teachers, public and private, were enrolled in college in the previous year (table 8).

Acknowledgments

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Introduction

New college graduates with teacher education training have traditionally been the largest source of new hires to teaching each year in the nation's schools. In the past two decades, however, as school enrollments increased and fewer college graduates entered teaching, concern about possible shortages in the supply of teachers has increased. In the 1960s, for example, 67 percent of newly hired teachers in public schools were new college graduates, but by the late 1980s this source supplied only 17 percent of new hires (National Education Association, 1987). Until the mid 1980s NCES made annual projections of the numbers of newly graduated teachers. When these supply numbers fell below the projected demand for new hires to teaching, many, failing to account for other sources of new hires besides new college graduates, reacted with alarm about impending teacher shortages. In school year 1987-88, NCES implemented a new survey, the Schools and Staffing Survey, to provide better measures of teacher supply and demand conditions, and factors influencing its balance, including teacher salaries, qualifications and career patterns.

Since the late 1980s, concern about teacher shortages has diminished as reports from this new survey, as well as studies in several states, have shown low rates of teacher attrition (Bobbitt, NCES, 1991; Bobbitt et al., 1994, Rollefson, NCES, 1989) and increasing numbers of teachers being hired from the reserve pool of former teachers (Kirby, Grissmer, and Hudson, 1991; Murnane, Singer, and Willet, 1988; National Academy of Sciences, 1990, Rollefson, 1993a). A number of factors, however, make continued monitoring of teacher supply and demand important: 1) school enrollments continue to increase, increasing the demand for teachers; 2) in spite of a recent upturn, the education pipeline is still turning out smaller numbers of teachers than in the past (*Digest of Education Statistics 1993*) with inevitable long term effects on the size of the reserve pool (non-teachers with teaching experience or training); 3) the size and character of the reserve pool upon which we depend for a significant portion of new hires remain unknown; 4) entry level teacher salaries, although they have kept pace with inflation, remain lower than salaries paid in many other entry level professions, leaving teaching at a disadvantage in attracting talented college graduates into its ranks (Rollefson, 1993b); and 5) the practice in several states of waiving standard teacher credentials when hiring new teachers continues, suggesting that some adjustments in teacher qualifications are being made, possibly in response to shortages.

Those who study teacher supply define four general sources of newly hired teachers: first-time teachers who come straight out of college into teaching, other first-time teachers who engage in other activities between graduating from college and taking their first teaching job, teachers who transfer from other schools, districts, states, or sector (public or private), and former teachers reentering teaching after breaks in their teaching careers.

Which teachers are counted as new hires, specifically which transfers from other teaching positions, depends on the model being used. Each of the following models represents a different policy perspective and would produce different counts of transfers. A national model would count as new hires only those teachers who transferred from outside the country; a state model, only those who transferred from another state; a district, only those from another district; and a school model, all who transferred from other schools. A sector model would count only those

transfers from the schools in the other sector, public or private. All of these models would count other types of newly hired teachers - that is, first-time teachers and reentrants - in the same way.

This report uses a state and sector (public/private) model to define which transfers to count as newly hired teachers. In this model, all teachers who transferred between public and private schools are counted as newly hired teachers, reflecting movements between the public and private school labor markets. In addition, all teachers who transferred from one state to another state were counted as newly hired, reflecting movements between state labor markets. Teachers who stayed within the same state and sector (i.e., private to private or public to public within the same state) were not included as transfers.

Other NCES reports using the same data source may present different estimates of the numbers and percentages of newly hired teachers because of these model differences. *Teacher Supply, Teacher Quality, and Teacher Turnover* (Ingersoll and Bobbitt, 1995), released at the same time as this report, uses a school level model of newly hired teachers and *The Condition of Education 1994* (NCES, 1994) uses a district level model. These estimates of sources of new hires are therefore substantially different from those reported here.

Source of Data

The data for this report are from the 1987-88 and 1990-91 Schools and Staffing Survey (SASS). SASS is a multilevel linked survey of public and private schools, school districts, school principals, and teachers. Although information on supply and demand factors is obtained from each survey level or component, this analysis used data from only the Public and Private School Teacher Surveys. The technical characteristics of this survey are presented in the Technical Notes at the end of this report.

Data for this analysis are from those teachers in the SASS sample who indicated that they were newly hired in that state or sector that school year, that they taught half-time or more, and that they were regular teachers, that is they were neither itinerant nor long-term substitute teachers. The samples consisted of 1,957 public and 954 private teachers in 1988 and 2,699 public and 959 private teachers in 1991. Each newly hired teacher was classified as one of four types, based on years of teaching experience and primary activity in the prior year. The four types of new hires are:

1. **Newly Prepared Teacher**--a first-year teacher who was attending college or had earned his or her highest degree in the previous year,

2. **Delayed Entrant**--a first-year teacher who had engaged in other activities in the year or years between graduating from college or receiving his or her highest degree and becoming a teacher;

3. **Transfer**--a teacher who in the previous year was teaching in another school either in the other sector (public or private) or in another state; or

4. **Reentrant**--a teacher who in the previous school year was not teaching elementary or secondary school, but who had taught in the past.

Newly prepared teachers and delayed entrants are further classified as **first-time teachers**, and transfers and reentrants as **experienced teachers**.

The data were analyzed to produce national estimates of each of the four types of new hires in terms of basic demographic characteristics, teaching qualifications, career paths, and former occupations. Selected findings are discussed with attention to the characteristics that distinguish the different types of new hires, in particular those characteristics that might suggest adjustments to teacher shortages, and to changes in characteristics of supply sources over time. All differences cited in the text have been tested with the t statistics at the .05 level of significance, adjusted for multiple comparisons. Tables of standard errors are in the appendix.

Results

In 1990-91 about 2.4 million public and 327,000 private school teachers were teaching half-time or more, an increase of 134,000 public and 43,000 private school teachers since 1987-88 (table 1). Between these two years, retention of teachers in the work force remained stable at 86 to 87 percent for private schools and 94 to 95 percent for public schools. The remaining 5 and 6, and 13 and 14 percent were newly hired in respective public and private schools in those years (table 1). This report focuses on those 147,000 and 177,000 public and private teachers newly hired in 1988 and 1991, respectively.

Table 1.--Percentage distribution of newly hired and continuing public and private school teachers: 1987-88 and 1990-91

	Public				Private			
	1987-88		1990-91		1987-88		1990-91	
Status of teachers	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total	2,114,649	100.0	2,356,184	100.0	283,922	100.0	327,130	100.0
New hires	106,820	5.1	133,798	5.7	40,266	14.2	42,817	13.1
Continuing	2,007,829	94.9	2,222,386	94.3	243,695	85.8	284,313	86.9

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987-88 and 1990-91 (Teacher Questionnaire).

Between these two school years a shift in sources of newly hired teachers occurred as public school districts and private schools hired relatively fewer reentrants and relatively more first-time teachers. Whereas in 1988 the proportion of reentrants in public schools equaled that of first-time teachers, by 1991 it was first-time teachers who predominated, filling 53 percent of public newly hired positions (table 2). In private schools reentrants predominated in 1988, but by 1991 the proportion of first-time teachers equaled that of reentrants. Among the first-time teachers there was increased hiring of both newly prepared (5 to 7 percentage point increase) and

delayed entrant groups (6 to 8 percentage point increase). The rate at which positions were filled by teachers transferring from schools in other states and sectors remained the same as in 1988 (figure 1). The decline in the relative size of the reentrant groups represents a significant change from 1988 and from the 1980's in general when reentering teachers were filling 40 to 50 percent of the demand for new hires. If transfers within state and sector are included as new hires, the percentage of new hires who are first-time teachers or reentrants decreases, but there is still a shift from reentrants to first-time teachers to meet the demand for new teachers.[1]

Table 2.--Percentage distribution of newly hired public and private school teachers by supply source: 1987-88 and 1990-91

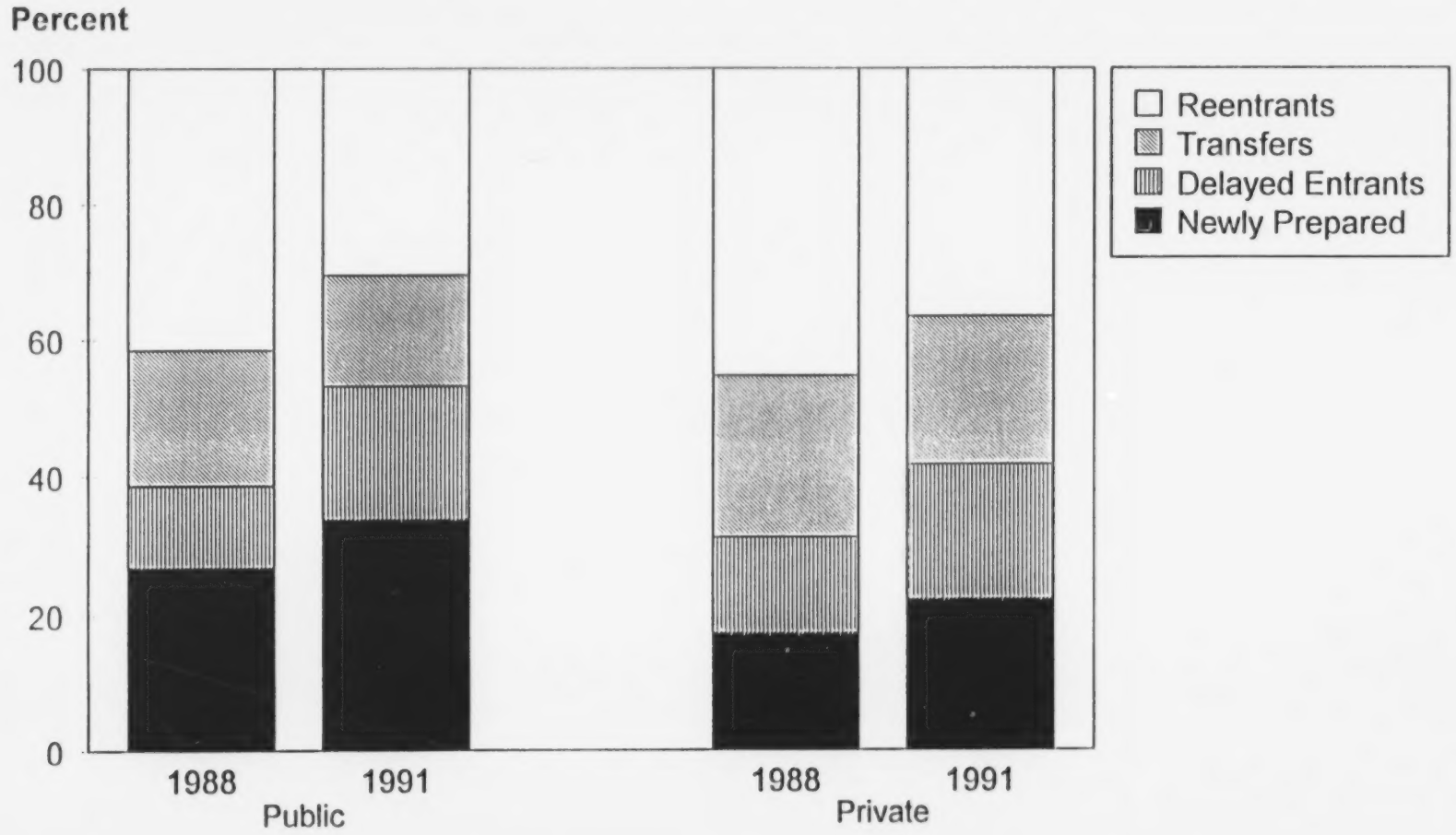
Source	Public		Private	
	1987-88	1990-91	1987-88	1990-91
Total percent	100.0	100.0	100.0	100.0
Total number	106,820	133,798	40,226	42,817
First time teachers total	38.6	53.2	31.1	41.6
Newly prepared	26.8	33.8	17.4	22.2
Delayed entrants	11.8	19.4	13.7	19.4
Transfers	19.9	16.3	23.6	21.9
Other sector (any state)	9.5	7.1	13.4	13.4
Other state (same sector)	10.4	9.1	10.2	8.5
Reentrants	41.5	30.5	45.3	36.5

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987-88 and 1990-91 (Teacher Questionnaire).

[1] *The Condition of Education, 1994* defines new hires at the district level for public and at the school level for private schools, thus including all within state and sector transfers. The table below presents these estimates.

	Public Schools		Private Schools	
	1988	1991	1988	1991
First-time teachers	30.6	41.7	25.2	34.0
Transfers	36.6	34.3	38.1	36.1
Reentrants	32.8	24.0	36.7	30.0

Figure 1.--Percentage distribution of newly hired teachers by sector and supply source: School years ending 1988 and 1991



SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987-88 and 1990-91 (Teacher Questionnaire).

Demographic Characteristics

Demographically, newly hired teachers in 1991 were not different from those in 1988. They were predominately female and predominately white non-Hispanic (tables 3 and 4) -- more so than the teacher workforce as a whole in public schools (table 5). The percent of newly hired teachers who were minority or were female was unchanged from 1988 for all four supply sources.

Table 3.--Newly hired public school teachers, by supply source and by selected demographic characteristics: 1987-88 and 1990-91

Characteristics	Total		Newly prepared		Delayed entrants		Transfers		Reentrants	
	1987-88	1990-91	1987-88	1990-91	1987-88	1990-91	1987-88	1990-91	1987-88	1990-91
Number new hires	106,820	133,798	28,676	45,165	12,593	26,012	21,274	21,747	44,277	40,874
Percent female	78.7	79.4	78.8	78.9	71.0	75.5	79.7	76.9	80.4	83.8
Percent minority	9.9	11.2	8.7	13.1	12.0	14.8	11.4	9.5	9.4	7.6
Age										
Mean total	33.7	34.1	27.7	28.5	31.3	31.8	35.4	36.7	37.5	40.3
Mean male	34.2	33.8	29.5	28.3	31.8	32.7	35.6	37.1	37.9	40.4
Mean female	33.8	34.1	27.4	28.5	31.1	31.5	36.0	36.5	37.7	40.3
Percent less than 25	16.7	17.6	48.7	42.9	11.1	11.8	4.1	1.9	3.6	1.9
25-29	22.7	23.3	26.3	27.7	38.4	34.8	25.9	26.5	14.4	9.5
30-34	15.4	14.8	9.2	12.2	22.9	19.2	18.3	17.8	15.8	13.2
35-39	20.2	14.4	8.5	6.4	15.1	20.3	23.3	16.9	27.7	18.1
40-44	14.2	16.5	4.5	6.6	9.1	9.2	15.9	19.1	21.2	30.7
45-49	6.7	7.2	1.6	2.5	2.8	2.6	6.1	8.7	11.3	14.6
50 or more	4.9	6.2	1.7	1.8	0.6	2.1	8.0	9.0	6.7	12.2
Percent 35 or more	45.9	44.3	16.4	17.3	27.7	34.2	53.2	53.7	66.9	75.5
Marital status										
Percent married	65.4	60.0	44.6	44.8	68.5	61.4	69.0	63.4	76.2	74.1
Dependents										
Percent with any	49.2	48.5	22.2	28.3	47.1	44.9	52.5	52.8	65.5	70.8
Percent with any less than 5 years	18.3	16.0	7.1	9.2	27.0	19.5	14.1	18.6	25.0	19.9
Income/salary*										
Base year salary	22,522	23,088	20,529	20,784	19,922	20,974	24,401	25,052	23,732	25,934
Total year round income	24,830	25,189	22,610	22,858	22,981	23,371	26,182	26,698	26,220	28,119
Percent moonlighting	14.9	17.3	16.1	15.1	19.6	19.4	10.8	17.3	14.8	18.4
Family income**										
Percent less than $25,000	41.1	21.1	60.8	32.5	47.2	23.2	32.4	15.3	30.4	10.2
Percent $25,000 but less than $50,000	39.9	44.1	28.7	44.2	40.4	48.6	45.1	49.4	44.7	38.3
Percent $50,000 or more	23.5	34.8	14.1	23.2	14.6	28.3	27.7	35.3	30.2	51.5

*1988 dollars adjusted to 1991 dollars using Consumer Price Index.
**1988 dollars are not adjusted to 1991.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987-88 and 1990-91 (Teacher Questionnaire)

Table 4.--Newly hired private school teachers, by supply source and by selected demographic characteristics: 1987-88 and 1990-91

Characteristics	Total		Newly prepared		Delayed entrants		Transfers		Reentrants	
	1987-88	1990-91	1987-88	1990-91	1987-88	1990-91	1987-88	1990-91	1987-88	1990-91
Number new hires	40,226	42,817	7,005	9,502	5,520	8,290	9,495	9,386	18,206	15,640
Percent female	78.8	75.0	78.2	75.3	69.6	71.8	79.2	68.2	81.6	80.6
Percent minority	6.7	7.3	3.0	8.5	9.5	5.0	3.4	8.8	9.0	6.9
Age										
Mean total	34.5	34.7	25.4	27.9	31.0	31.5	35.3	36.3	38.6	39.4
Mean male	33.7	34.5	26.7	27.7	34.0	30.3	35.5	38.2	35.6	39.4
Mean female	34.7	34.7	25.0	28.0	29.7	32.0	35.3	35.4	39.3	39.4
Percent less than 25	15.5	13.2	61.9	41.5	13.8	13.8	4.8	4.1	3.5	1.0
25-29	24.4	27.0	28.2	33.5	32.4	46.8	34.0	26.1	15.7	13.2
30-34	14.1	13.2	2.3	11.2	28.6	6.5	9.8	17.8	16.6	15.1
35-39	19.2	17.1	5.9	3.7	15.1	16.3	25.0	19.6	22.5	24.1
40-44	11.3	13.1	2.0	5.5	3.6	6.0	5.2	12.5	20.4	21.7
45-49	7.6	8.7	0.0	4.1	3.6	5.7	13.1	10.9	8.9	11.6
50 or more	9.0	7.8	0.0	0.6	5.0	4.8	9.8	9.0	13.3	13.1
Percent 35 or more	47.1	46.6	7.9	13.9	27.4	32.9	53.2	52.1	65.1	70.6
Marital status										
Percent married	56.7	58.1	28.9	33.8	63.4	58.1	62.9	58.9	62.2	72.3
Dependents										
Percent with any	38.8	43.4	8.3	17.7	40.8	31.3	41.0	44.0	48.6	65.1
Percent with any less than 5 years	12.6	14.4	4.5	4.4	21.9	11.3	11.6	17.0	13.3	20.7
Income/salary*										
Base year salary	15,071	15,873	14,618	14,227	12,748	14,634	16,155	18,094	15,348	16,197
Total year round income	17,874	18,418	18,039	16,770	16,728	17,065	18,451	20,491	17,841	18,891
Percent moonlighting	26.1	28.1	26.3	26.6	29.5	28.1	22.8	29.3	26.8	28.2
Family income**										
Percent less than $25,000	52.4	35.4	78.4	52.6	66.4	39.4	48.1	35.7	40.9	22.6
Percent $25,000 but less than $50,000	40.0	38.3	19.1	31.0	44.0	38.7	37.0	43.0	48.4	39.7
Percent $50,000 or more	16.7	26.3	12.0	16.5	7.9	21.8	20.1	21.3	19.1	37.7

*1988 dollars adjusted to 1991 dollars using Consumer Price Index.
**1988 dollars are not adjusted to 1991.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987-88 and 1990-91 (Teacher Questionnaire).

Table 5.--Selected demographic characteristics of newly hired and total public and private school teachers: 1990-91

Characteristics	Public		Private	
	New hires	All	New hires	All
Percent female	79.4	71.9	75.0	77.1
Percent minority	11.2	13.5	7.3	7.8
Mean age	34.1	41.6	34.7	40.3

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1990-91(Teacher Questionnaire).

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The age distribution of new hires was also similar to that in 1988, with only a slight aging of each group. In the public sector, 43 percent of newly prepared teachers in 1991 were under the age of 25 , and another 40 percent were between 25 and 34. Delayed entrants, like the newly prepared teachers, were also concentrated in 25 to 34 year range, but with fewer under 25 and more (a third) over the age of 35. Transfers and reentrants were more likely to be 35 or older, and with reentrants older than transfers. In the private sector the age distribution was quite similar to that of the public new hires.

Teacher Qualifications

Teacher qualifications are an important aspect of teacher supply and demand, since imbalances in supply and demand conditions are often resolved through adjustments in teacher qualifications (National Academy of Science, 1987 and 1990). It is important, therefore, to compare the qualifications of teachers coming from different supply sources. Available data on qualifications are degree attainment, major or minor field of study, and certification status. These measures are limited, however, as they do not directly measure how well a teacher teaches students in the classroom. In addition, certification or licensure requirements vary greatly from state to state, and are themselves undergoing a serious reexamination as the profession moves to establish national standards for teacher education and credentials. Continued research is needed to develop measures of teacher qualifications that better distinguish among teachers along quality dimensions, and that will reflect the new standards for teacher credentialing as they develop.

Degree attainment in the teacher workforce is largely a function of age and experience, and this is apparent from these data on newly hired teachers. In 1990-91 experienced teachers (transfers and reentrants) were more likely to have degrees beyond a bachelor's than inexperienced teachers (newly prepared and delayed entrants) (table 6). About 38 percent to 46 percent of public experienced teachers (transfers and reentrants) held degrees beyond a bachelor's compared with about 9 to 13 percent of new inexperienced teachers (newly prepared and delayed entrants). In the private sector experienced teachers were also more likely to hold higher degrees than first time teachers.

A more telling set of qualifications than highest degree is the teacher's qualifications in his or her primary teaching assignment field (the field in which a teacher spends most of his or her time). Table 7 shows all combinations of major or minor and certification in the primary assignment field. When these more specific qualifications are examined, some interesting differences by source and by sector emerge, especially among first-time teachers (figure 2). In both sectors, delayed entrants were less likely than newly prepared teachers to hold qualifications in their primary field of assignment. Public school delayed entrants were less likely to have college majors or minors in their primary assignment field (regardless of certification) (67 versus 81 percent) or to hold standard certification (regardless of major or minor) (65 versus 80 percent), and were more likely to hold emergency or temporary certificates (requiring further coursework before standard certification is granted) (24 versus 13 percent) than were newly prepared teachers (Table 7). Only 49 percent of public delayed entrants held the standard credential (i.e. major or minor with certification) compared to 67 percent of newly prepared teachers. These patterns were similar for private school teachers where 53 percent of delayed

entrants had majors or minors in their teaching fields compared to 71 percent of newly prepared teachers, and 39 percent of the delayed entrants met none of these criteria. (It should be noted here that only a few states require certification for private school teachers.)

Table 6.--Percent of newly hired public and private school teachers, by supply source, highest degree earned, and average years of teaching experience: 1987-88 and 1990-91

Characteristics	Total		Newly prepared		Delayed entrants		Transfers		Reentrants	
	1987-88	1990-91	1987-88	1990-91	1987-88	1990-91	1987-88	1990-91	1987-88	1990-91
Public										
BA/BS or less	71.2	74.5	87.9	91.5	88.6	87.4	63.2	61.5	59.5	54.4
MA/MS or more	28.8	25.5	12.1	8.5	11.4	12.6	36.8	38.5	40.5	45.6
MA/MS	24.4	21.2	11.2	6.7	9.0	11.1	32.8	32.9	33.3	37.3
Ed. Spec.	3.3	3.7	0.9	1.6	1.0	0.5	2.9	5.5	5.6	7.2
PhD/FPD	1.1	0.6	0.0	0.3	--	1.0	--	--	1.7	1.1
Years teaching experience	NA	NA	NA	NA	NA	NA	9.2	8.9	8.1	9.1
Total number	106,820	133,798	28,676	45,165	12,593	20,012	21,274	21,747	44,277	40,874
Private										
BA/BS or less	73.6	75.5	92.8	88.2	84.2	85.4	67.9	66.8	66.2	67.9
MA/MS or more	26.4	24.5	7.2	11.8	15.8	14.6	32.1	33.2	33.8	32.1
MA/MS	22.2	19.7	6.5	10.2	15.3	12.4	28.1	25.2	28.0	25.9
Ed. Spec.	2.5	3.2	--	0.8	--	0.4	3.5	7.1	3.3	4.0
PhD/FPD	1.3	1.5	--	--	--	--	--	--	2.6	2.2
Years teaching experience	NA	NA	NA	NA	NA	NA	10.0	9.1	8.7	8.3
Total number	40,226	42,817	7,005	9,502	5,520	8,290	9,495	9,386	18,206	15,640

-- Too few sample cases for a reliable estimate.
NA = Not applicable.
NOTE: Percents may not add to 100 due to rounding.

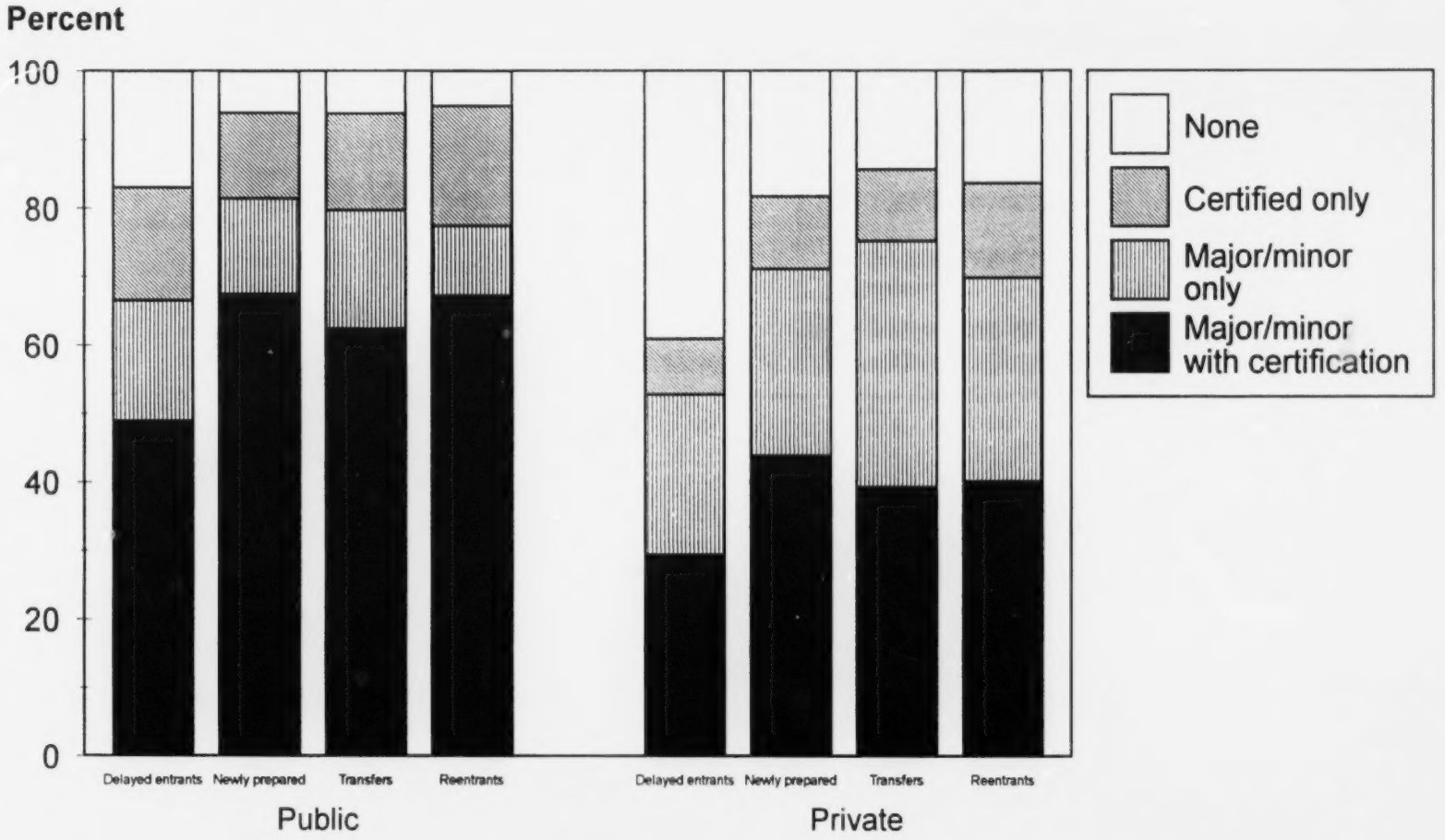
SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987-88 and 1990-91 (Teacher Questionnaire).

Table 7.--Percentage distribution of newly hired public and private school teachers, by supply source and by various qualifications in primary assignment field: 1987-88 and 1990-91

Characteristics	Total		Newly prepared		Delayed entrants		Transfers		Reentrants	
	1987-88	1990-91	1987-88	1990-91	1987-88	1990-91	1987-88	1990-91	1987-88	1990-91
Public										
Major/minor With certification	65 8	62 9	74 0	67 4	43 2	48 9	66 8	62 4	66 3	67 2
Certified only	11 5	15 1	7 8	12 5	14 4	16 5	9 8	14 1	14 0	17 5
Major/minor Without certification	15 9	14 1	12 7	14 0	23 6	17 6	19 0	17 3	14 5	10 2
None of the above	6 8	7 9	5 6	6 1	18 8	17 0	4 4	6 3	5 3	5 1
Total	100 0	100 0	100 0	100 0	100 0	100 0	100 0	100 0	100 0	100 0
Total certified	77 3	78 0	81 8	79 9	57 6	65 4	76 6	76 4	80 3	84 7
Total major or minor	81 8	77 0	86 6	81 4	66 8	66 5	85 8	79 6	80 8	77 4
Temporary/emergency certification	15 4	15 3	13 2	13 2	26 9	24 3	15 6	19 7	13 4	9 8
Private										
Major/minor With certification	39 1	38 7	43 0	43 8	20 2	29 4	39 1	39 2	43 6	40 1
Certified only	8 0	11 2	2 7	10 6	6 3	8 1	12 9	10 4	8 2	13 8
Major/minor Without certification	32 8	29 3	37 3	27 3	25 5	23 4	30 9	36 0	34 4	29 7
None of the above	20 0	20 8	17 0	18 3	48 0	39 2	17 1	14 5	13 8	16 3
Total	100 0	100 0	100 0	100 0	100 0	100 0	100 0	100 0	100 0	100 0
Total certified	47 2	49 9	45 7	54 4	26 5	37 4	52 0	49 5	51 8	54 0
Total major or minor	72 0	68 0	80 4	71 1	45 7	52 7	70 0	75 2	78 0	69 8
Temporary/emergency certification	6 9	14 7	10 3	15 2	2 6	12 7	6 8	14 5	7 0	15 2

SOURCE U S Department of Education, National Center for Education Statistics, Schools and Staffing Survey,"1987-88 and 1990-91 (Teacher Questionnaire)

Figure 2.-- Percentage distribution of newly hired teachers by supply source and qualifications in primary assignment field: 1990-91



SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1990-91 (Teacher Questionnaire).

In each sector, experienced new hires (that is, transfers and reentrants) held virtually the same qualifications as each other and were very similar to newly prepared teachers. This similarity in qualifications between the newly prepared and experienced teachers (transfers and reentrants) suggests a standardization of criteria (i e., a major or minor plus certification in the teaching assignment field) that characterizes the usual path into the teaching profession, especially in the public sector. In contrast, the less than standard credentials of many delayed entrants, in particular the lower rate at which they had a major or minor with certification (about 49 percent versus 62 and 67 percent for public, and 29 versus 39 to 44 percent for private), suggests that fewer of them prepared in advance to enter teaching. The qualifications of each type of new hire did not change between 1987-88 and 1990-91.

Career Patterns of Newly Hired Teachers

The prior year activities of newly hired teachers portray differences in the career paths of teachers as they enter, transfer, and reenter teaching from different supply pools. Overall, there were few changes in these patterns between 1988 and 1991, and for the most part the discussion will focus on the more recent school year. The prior year activities of each type of new hire are presented first, followed by an examination of substitute teaching and occupational transfer as routes into teaching.

Newly prepared teachers were defined as those first-time teachers who were attending college or had earned their highest degree in the previous year. Over ninety percent of newly prepared teachers had been in college in the previous year, and the remainder had earned their highest degree during 1990 and were engaged in other activities, mostly other non-teaching jobs and substitute teaching (table 8).

Delayed entrants had more diverse experiences prior to their first year of teaching than did newly prepared teachers (figure 3). The vast majority of them (over 80 percent both public and private) were working in the previous year, the public delayed entrants predominantly as substitute teachers[2] (45 percent), followed by work outside the field of education (25 percent) and then by non-teaching jobs in education (10 percent). Private delayed entrants were working mostly in occupations outside education (41 percent), as substitute teachers (23 percent), and in non-teaching jobs in education (13 percent). A small percentage (5 percent of public and 7 percent of private) were teaching at the pre-school or postsecondary level. Among those who were not working, most were engaged in homemaking or childrearing.

Transfers were defined as those teachers who were teaching in an elementary or secondary school in another state and/or sector during the previous school year. Table 8 shows the distribution of cross-sector (public to private or vice versa) and cross-state transfers for public

[2] Although substitute teaching may be considered a form of teaching experience, the survey distinguishes employment as a regular teacher as distinct from that as a substitute teacher and we do not know the duration or intensity of the substitute teaching experience.

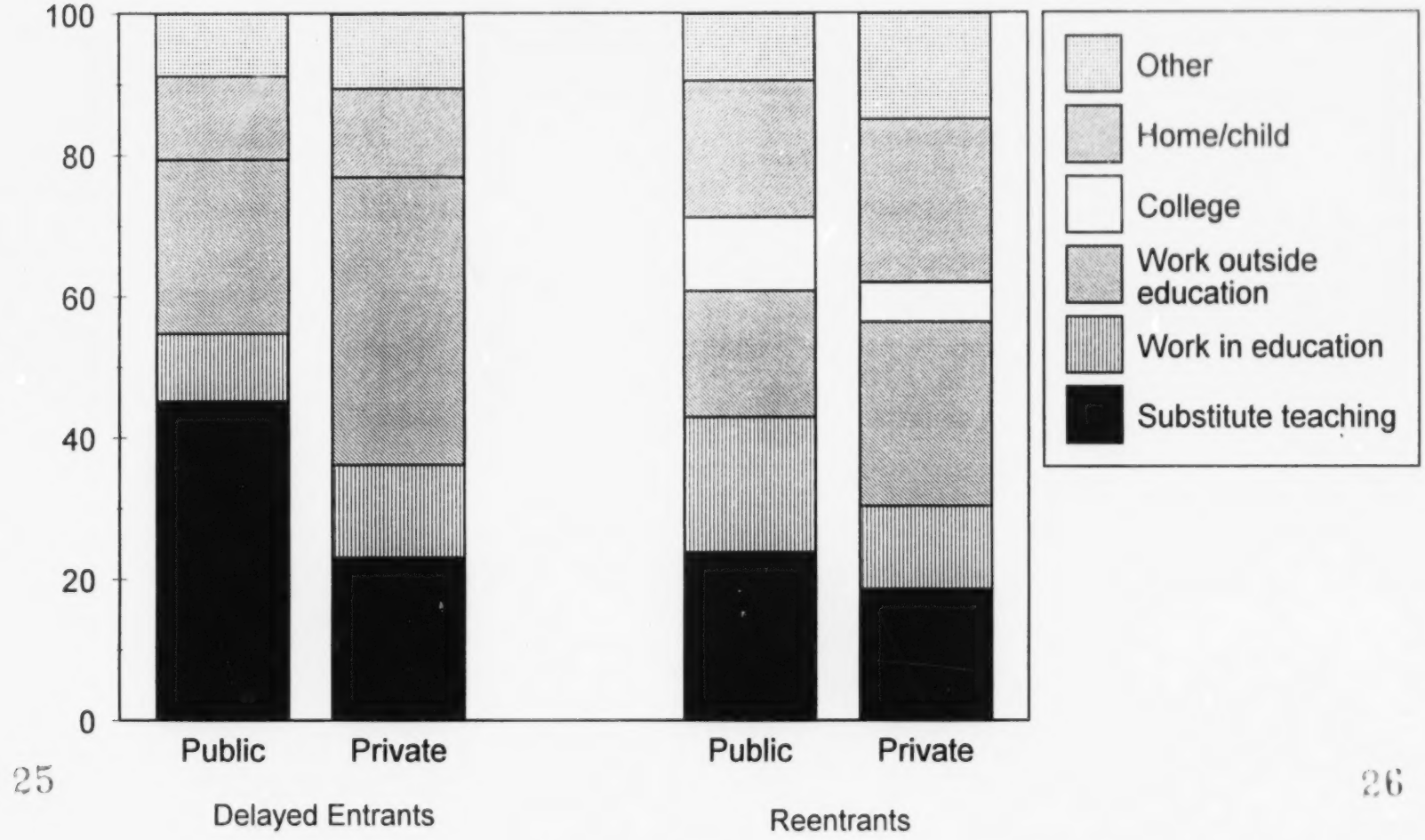
Table 8.--Percentage distribution of newly hired public and private school teachers, by supply source and by prior year activity: 1987-88 and 1990-91

Activity	Newly prepared		Delayed entrants		Transfers		Reentrants	
	1987-88	1990-91	1987-88	1990-91	1987-88	1990-91	1987-88	1990-91
Public								
Teaching total								
Public, other state	NA	NA	NA	NA	52.3	56.0	NA	NA
Private, any state	NA	NA	NA	NA	47.7	44.0	NA	NA
Postsecondary	NA	0.1	4.2	3.0	NA	0.0	2.6	3.9
Pre school	++	0.4	++	2.1	NA	NA	++	3.6
Substitute	++	2.4	++	45.2	NA	NA	++	23.8
Working non-teaching	1.5	4.2	51.1	34.2	NA	NA	27.6	37.0
In education	1.1	2.7	16.1	9.6	NA	NA	10.2	19.1
Outside education	0.5	1.6	35.0	24.6	NA	NA	17.4	17.9
College	95.7	92.1	0.0	0.0	NA	NA	18.0	10.4
Home/child	--	--	10.9	11.8	NA	NA	27.8	19.3
Other	2.0	--	33.9	3.7	NA	NA	23.9	2.0
Number of new hires	28,676	41,165	12,593	26,012	21,274	21,747	44,277	40,874
Private								
Teaching total								
Public, any state	0.0	0.0	0.0	0.0	56.8	61.1	0.0	0.0
Private, other state	0.0	0.0	0.0	0.0	43.2	38.9	0.0	0.0
Postsecondary	0.0	--	--	5.3	0.0	0.0	1.6	5.7
Pre school	++	--	++	2.0	++	0.0	++	5.8
Substitute	++	2.4	++	23.1	++	0.0	++	18.6
Working non-teaching	4.2	5.7	61.3	53.8	0.0	0.0	30.1	37.7
In education	--	2.7	10.0	13.1	0.0	0.0	8.9	11.7
Outside education	3.4	3.0	51.3	40.7	0.0	0.0	21.2	26.1
College	92.6	91.3	0.0	0.0	0.0	0.0	20.0	5.6
Home/child	--	0.0	15.8	12.5	0.0	0.0	28.6	23.1
Other	2.1	0.0	22.5	3.3	0.0	0.0	19.7	3.4
Number of new hires	7,005	9,502	5,519	8,290	9,495	9,386	18,206	15,640

-- Too few sample cases for a reliable estimate
NA = Not applicable
++Not collected in 1987-88
NOTE: Percents may not add to 100 due to rounding

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987-88 and 1990-91 (Teacher Questionnaire)

Figure 3.--Percentage distribution of delayed entrants and reentrants by prior year activities : 1990-91



SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1990-91 (Teacher Questionnaire).

and private teachers. In the public sector, transfers were supplied about equally by public and private schools, while in the private sector more of the transfers were supplied by public schools (61 percent). In terms of net gains and losses across the sectors, however, the public schools realized a small gain and the private schools a large loss, as a larger number of teachers transferred from private to public schools (9,500) than from public to private schools (5,740). The net loss to private schools of 4,760 teachers represents 11 percent of their total demand for new hires.

Reentrants, having taken a break from teaching, are more diverse in their prior year experiences than transfers. About two-thirds of the reentrants were working in the prior year, primarily in substitute teacher positions (24 percent public and 19 percent private), and in non-teaching jobs in education (19 percent public and 12 percent private) and outside education (18 percent public and 26 percent private) (figure 3). Some reentrants had been attending college in the previous year, but not as large a percentage as in 1988, when almost twice as many public reentrants and four times as many private reentrants had been in college. Another 19 (public) and 23 (private) percent were homemaking or childrearing, fewer, among public reentrants, than in 1988.

Substitute teaching can be a means of obtaining regular employment in a school system and in 1991 it appears that many new hires may have gained access to teaching jobs through substitute positions. Many delayed entrants (not quite half of the public and a quarter of private delayed entrants) were substitute teachers in the previous year, as were a quarter of public and a fifth of private reentrants. Unfortunately, substitute teaching was not a response option to that parallel item in the 1988 survey, and therefore it is not possible to compare the two years. There were, however, large decreases in the percentages of new hires engaged in "other" activities between the two years, and it may be that many of these teachers had been substitute teaching.

The phenomenon of **occupational transfer** has captured the interest of policy makers and teacher supply and demand experts. Occupational transfers may reflect various career strategies, but these data suggest two in particular, one a recruiting strategy used by educational policy makers, and the other a career strategy used by individuals. The first, the policy strategy, developed in many states in response to the anticipated teacher shortages of the last decade. To actively recruit needed teachers, states developed alternative route certification and licensure programs to prepare individuals who lacked education degrees. Many of these programs were targeted at individuals of minority group membership , and others at individuals in high skill fields and occupations, particularly mathematics and sciences. These programs differ in the extent to which they provide education and supervision of the alternative route candidates (Feistritzer and Chester, 1991), but by the early 1990s as many as 43 states had some form of alternate route program (American Association of Colleges for Teacher Education, 1993). Although the data are not available in SASS to indicate which new hires entered teaching through such alternate routes, many delayed entrants may have. What suggests this is the large proportion of delayed entrants who transferred from non-teaching occupations without having the standard teacher education background.

The large proportions of reentrants who transferred from other occupations, both within and outside education, may have been using the second strategy of holding another job until a teacher position becomes available, much like those who substitute teach to gain entry to regular teaching positions. Reentrants had taught in the past and were more likely to hold standard teacher qualifications.

Among both delayed entrants and reentrants, working in non-teaching occupations was a major prior year activity. A third of public and over a half private delayed entrants, and over a third of public and private reentrants transferred from other occupations in 1991 (table 8). Most occupational transfers are from occupations outside education, with the exception of public reentrants, where transfers from inside and outside education are about equal. Overall, occupational transfers occur more often in the private sector than in the public sector. Because of changes in the response options to that item, it is difficult to interpret changes in occupational transfers between 1987-88 and 1990-91.

Those delayed entrants who transferred from occupations in education in 1991, as in 1988, came primarily from teacher aide positions (67 percent public and 63 percent private), and those who came from outside education came about equally from professional and support occupations (see Table 9). A change in the reference year for this item in the 1990-91 questionnaire invalidates the comparison for prior year occupations for reentrants. The 1987-88 data, however, indicate that a substantial portion of the reentrants from occupations in education (32 percent public and 36 percent private) came from teacher aide positions. The extent of transfer from teacher aide positions suggests that these positions may serve as an entry into teaching not only for inexperienced teachers but also, in spite of their lower salaries, for those who have taught before.

Discussion

Although detailed trend data are not available, it is clear from a few data points that the relative contribution of the supply sources of newly hired teachers has changed dramatically in the past three decades. In the 1960s, 67 percent of public school new hires were new teacher graduates (National Education Association, 1987), but by the first administration of SASS in 1987-88 this source had shrunk to 27 percent, replaced by reentering teachers as the primary source of new hires (42 percent). Between 1988 and 1991 there was another shift away from reentrants and towards first-time teachers - a group composed of both new teacher graduates (newly prepared teachers) and delayed entrants. Whether this shift is supply or demand driven is not clear. One supply hypothesis is that the reserve pool of teachers is shrinking, with the result that schools must turn increasingly to inexperienced teachers, regardless of their qualifications, to meet demand for new hires. An alternative demand hypothesis is that increased enrollments

during a period of budget restrictions pushes schools to hire the less expensive inexperienced teachers.[3]

Table 9.--Percentage distribution of newly hired public and private teachers by supply source and by prior year occupation: 1987-88 and 1990-91*

Characteristics	Newly prepared		Delayed entrants		Reentrants	
	1987-88	1990-91	1987-88	1990-91	1987-88	1990-91
Public						
Occupations in education	100.0	100.0	100.0	100.0	100.0	#
School professional	24.1	10.2	7.6	22.5	41.1	#
Teachers aide	64.8	89.8	65.0	66.5	31.6	#
Other staff	11.0	0.0	27.4	11.0	27.3	#
Total number	1,216	803	2,451	2,344	5,895	#
Occupations outside education	100.0	100.0	100.0	100.0	100.0	#
Professional (Mgr., Scientific)	32.6	--	43.3	38.1	44.0	#
Support (Tech., Sales, Admin.)	38.4	58.7	40.5	40.5	41.1	#
All other (Services, Mechanical, Construction, Farming)	29.0	35.7	16.2	21.5	14.9	#
Total number	1,293	930	4,710	7,375	8,365	#
Private						
Occupations in education	100.0	100.0	100.0	100.0	100.0	#
School professional	--	--	55.6	28.0	49.2	#
Teachers aide	74.7	--	30.7	62.7	35.5	#
Other staff	--	--	13.7	9.2	15.2	#
Total number	202	101	664	1,347	1,596	#
Occupations outside education	100.0	100.0	100.0	100.0	100.0	#
Professional (Mgr., Scientific)	46.2	21.1	40.9	36.9	32.4	#
Support (Tech., Sales, Admin.)	37.6	36.5	32.2	41.7	47.1	#
All other (Services, Mechanical, Construction, Farming)	--	42.4	26.9	21.4	20.5	#
Total number	535	822	2,694	3,625	4,063	#

-- Too few sample cases for a reliable estimate.
*Includes only those who transferred from other occupations.
Data not available.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987-88 and 1990-91 (Teacher Questionnaire).

An important related change between 1988 and 1991 was the increase in both public and private schools in the hiring of delayed entrants, an increase from 12 to 19 percent of new hires in public and from 14 to 19 percent in private schools. The qualifications of this group of new teachers in their primary fields of assignment, as in 1988, were less than those of other new hires,

[3] In 1991, the differences between average base-year salaries paid to first-year teachers (newly minted and delayed entrants) compared with experienced teachers (transfers and reentrants) were $4,000 to $5,000 in public and $2,000 to $3,500 in private schools (tables 3 and 4).

perhaps reflecting an adjustment to shortages of the other sources of teachers or a larger pool of delayed entrants.

Aside from the changes in the relative size of each of these types of newly hired teachers, remarkably little about them changed between 1988 and 1991. Demographically and in their qualifications to teach in their primary assignment field they remain about the same as in 1988. There was a tendency for a higher proportion of the delayed entrants and reentrants to be working in other jobs prior to entering or returning to teaching, and for fewer of the reentrants to have been in college in the prior year. The change in the questionnaire item between the two survey years, however, makes this comparison difficult.

In terms of teacher career paths, we should ask whether these different supply sources provide distinctly different types of teachers, different paths into the profession, or simply represent different stages of teachers' careers. Although preliminary and needing further analysis, these data suggest that newly prepared and delayed entrants were indeed different from each other. The similarity of transfers and reentrants, however, suggested merely a difference in career stage.

Transfers and reentrants were remarkably similar across all variables examined in this report. In terms of their qualifications to teach (degrees earned, major or minor, and certification status in primary teaching field), they were virtually the same. Reentrants were about 2 (public) to 3 years (private) older on average than transfers and were more heavily concentrated in the 35 year and older ages. The combination of slight difference in age and similarity in length of teaching experience suggests that these two sources of new hires may just reflect different stages in the career paths of the same general type of teacher, i.e., before and after a break in service. Those reentrants who transferred from other occupations, however, (37 and 38 percent) may not have been following the typical teacher career path. More analyses of these occupational transfers, length and number of breaks in service, career plans and reasons for leaving and reentering teaching, are needed to determine whether they were exhibiting typical and planned moves in teachers' careers, or were being drawn unexpectedly back into the classroom by changes in educational policy, societal values regarding education, economic conditions, or personal circumstances.

When examining the newly prepared and the delayed entrant sources of new teachers, the data suggest that these two supply sources provide different types of teachers. The extent to which delayed entrants lacked the standard teaching credentials, particularly major or minor with certification, suggested that as many as half of public and more than two-thirds of private delayed entrants did not plan to enter the teaching profession when they were earning their highest degrees. That nearly a third of public and half of private delayed entrants transferred from other occupations, most outside the field of education, tends to support this notion. Whether these teachers were responding to policies established to recruit new teachers or whether the policies developed in response to this new supply pool was not clear from these data. Whichever came first, if a major or minor with certification is the desirable standard qualification to teach a field, the data suggest that many in this group (about 50 percent of public) may be in need of alternative teacher training programs. Further, the extent to which this pool of teachers was drawn upon to

meet demand illustrates the type of adjustment in teacher qualifications made when supply and demand imbalances occur.

Continued reporting of data from the Schools and Staffing Survey will verify the nature and magnitude of these apparent trends. If reentrants continue to be a major source of new hires, the study of the definition, size, and qualifications of the "reserve pool" from which they come will become more important. If delayed entrants continue to grow as a source of new hires, and if they continue to hold fewer qualifications than the other supply sources, the issue and redefinition of teacher shortage will become more important. In either case, continued monitoring of the enrollments in teacher preparation programs will be important.

The issues of teacher supply, demand and shortage cannot be adequately addressed without better measures of teacher quality since shortages often take the form of decreasing quality of those hired rather than failure to fill vacancies. Certainly, as the debate on teacher preparation and credentialing shows, certification does not equal quality, even though substantive preparation in field is an important part of teacher quality, major or minor in the teaching field alone does not go far enough. Improvement in this area requires research to define the dimensions of teacher quality and to develop methods to measure them.

Finally, for policy makers to be able to influence supply and demand balances and for schools to attract and retain the most qualified teachers, a better understanding of the factors that influence individuals' decisions to enter, leave and return to the teaching profession is needed.

Technical Notes

Data were analyzed using SAS procedures, primarily percentage distributions and estimates of totals and means. The data were weighted to national estimates for both public and private school teachers, and standard errors for the estimates were produced using the Wesvar Procedure (Westat, 1989). The estimates and standard errors are presented in tables 1-9 in the text and 1A-9A in the appendix. All comparisons of estimates in this paper were tested with a *t* statistic, at an alpha level of .05, using the Bonferonni adjustment for multiple comparisons.

The data for this paper are from the Public and Private School Teacher Questionnaires of 1987-88 and 1990-91 Schools and Staffing Survey (SASS). The SASS is a mail survey which collects public and private sector data on the Nation's elementary and secondary teaching force, aspects of teacher supply and demand, teacher workplace conditions, characteristics of school administrators, and school policies and practices. For details on the SASS see Kaufman and Huang (1993), Kaufman (1991), and the *Quality Profile for SASS* (NCES, 1994). The SASS samples of teachers, selected from the SASS public and private school samples, contain 56,242 public and 11,529 private teachers for 1987-88 and 56,051 public and 9,166 private teachers for 1990-91. The samples used for this report contain 1,957 public and 954 private new teachers in 1988 and 2,699 public and 959 private new teachers in 1991.

Comments and More Information

We are interested in your reaction to the information presented here and to the content of the surveys used to produce these results. We welcome your recommendations for improving our survey work. If you have suggestions or comments or want more information about this report, please contact:

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APPENDIX

Tables of Standard Errors

Table 1A.--Standard errors for percentage distribution of newly hired and continuing public and private school teachers: 1987-88 and 1990-91

Status of teachers	Public				Private			
	1987-88		1990-91		1987-88		1990-91	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total	13,823.8		21,314.8		7,612.1		6,668.7	
New hires	291.4	0.12	4,106.4	0.17	2,031.0	0.61	1,974.0	0.52
Continuing	12,637.6	0.12	20,771.9	0.17	6,814.5	0.61	5,910.4	0.52

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987-88 and 1990-91 (Teacher Questionnaire).

Table 2A.--Standard errors for percentage distribution of newly hired and private school teachers by supply source: 1987–88 and 1990–91

Source	Public		Private	
	1987–88	1990–91	1987–88	1990–91
Total number				
First time teachers total	1.03	1.52	1.38	2.05
Newly prepared	1.15	1.31	1.41	1.57
Delayed entrants	0.94	1.49	1.09	1.66
Transfers	1.41	1.26	1.90	2.18
Other sector (any state)	0.99	1.10	1.49	1.46
Other state (same sector)	0.79	0.71	1.39	1.61
Reentrants	1.25	1.52	2.42	2.43

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987–88 and 1990–91 (Teacher Questionnaire).

Table 3A.--Standard errors for newly hired public school teachers, by supply source and by selected demographic characteristics: 1987-88 and 1990-91

Characteristics	Total		Newly prepared		Delayed entrants		Transfers		Reentrants	
	1987-88	1990-91	1987-88	1990-91	1987-88	1990-91	1987-88	1990-91	1987-88	1990-91
Percent female	1.34	0.95	2.22	1.80	3.73	3.16	2.71	3.47	1.75	1.70
Percent minority	0.79	0.84	1.45	1.76	2.21	2.29	2.09	2.09	1.19	1.22
Age										
Mean total	0.23	0.28	0.34	0.37	0.52	0.42	0.64	0.65	0.31	0.44
Mean male	0.55	0.52	0.95	0.57	0.81	1.11	1.39	1.34	0.85	0.86
Mean female	0.25	0.33	0.34	0.45	0.65	0.49	0.72	0.77	0.32	0.50
Percent less than 25	0.77	1.20	2.17	2.44	2.52	2.63	1.56	1.41	0.88	0.67
25-29	1.10	1.42	2.27	2.45	4.79	3.70	2.46	2.89	1.52	1.54
30-34	0.88	1.39	1.64	1.99	2.87	2.77	2.16	3.50	1.52	2.03
35-39	1.23	1.13	1.28	1.05	2.81	2.86	2.77	2.61	1.92	2.43
40-44	0.94	1.35	0.86	1.13	1.99	1.59	3.04	2.76	1.57	3.34
45-49	0.69	0.94	0.76	0.53	1.07	0.84	1.76	1.89	1.49	2.67
50 or more	0.68	0.71	0.84	0.75	0.41	0.71	1.90	2.51	1.07	1.80
Percent 35 or more	1.29	1.76	1.88	1.74	3.33	2.50	3.68	3.76	1.57	2.83
Marital status										
Percent married	1.39	1.66	2.59	2.62	3.72	3.46	3.84	4.02	1.56	2.65
Dependents										
Percent with any	1.20	1.55	2.50	2.35	3.74	3.28	3.07	3.70	1.97	2.64
Percent with any less than 5 years	1.00	1.14	1.37	1.57	3.73	2.91	2.26	2.79	1.79	2.50
Income/salary*										
Base year salary	247.2	319.6	239.9	191.7	505.6	330.4	566.8	670.1	387.6	872.3
Total year round income	285.0	334.0	304.8	224.2	652.1	345.2	626.8	766.8	433.5	903.1
Percent moonlighting	1.00	1.10	2.04	1.79	3.18	2.18	1.47	3.17	1.61	2.65
Family income**										
Percent less than $25,000	1.58	1.26	3.08	3.16	4.18	2.29	3.37	3.13	2.25	1.74
Percent $25,000 but less than $50,000	1.47	1.52	2.52	2.78	3.64	3.09	3.70	3.63	2.30	2.71
Percent $50,000 or more	1.43	1.34	2.08	2.14	2.29	3.48	3.26	3.06	2.28	3.08

*1988 dollars adjusted to 1991 dollars using Consumer Price Index.
**1988 dollars are not adjusted to 1991.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987-88 and 1990-91 (Teacher Questionnaire).

Table 4A.--Standard errors for newly hired private school teachers, by supply source and by selected demographic characteristics: 1987–88 and 1990–91

Characteristics	Total		Newly prepared		Delayed entrants		Transfers		Reentrants	
	1987–88	1990–91	1987–88	1990–91	1987–88	1990–91	1987–88	1990–91	1987–88	1990–91
Percent female	1.91	1.79	3.47	3.60	7.08	4.54	3.20	4.07	2.56	2.89
Percent minority	0.79	0.95	1.57	2.48	5.04	1.39	1.14	2.65	1.51	1.15
Age										
Mean total	0.72	0.46	0.31	0.68	1.20	1.01	0.96	1.00	1.21	0.72
Mean male	0.99	0.91	0.75	0.88	3.42	1.38	1.96	1.74	1.69	1.05
Mean female	0.88	0.54	0.36	0.82	0.71	1.27	1.09	1.12	1.45	0.84
Percent less than 25	1.22	1.34	3.80	5.20	3.17	3.08	1.67	1.69	0.85	0.49
25–29	1.70	2.11	3.77	4.02	5.53	4.53	3.80	5.37	2.21	2.13
30–34	2.27	1.58	1.21	2.99	8.21	1.35	2.03	4.20	3.61	2.49
35–39	1.74	1.89	1.81	1.58	3.95	2.85	3.63	4.43	3.44	3.71
40–44	1.36	1.55	1.14	1.79	1.98	1.90	1.43	3.83	3.00	3.35
45–49	1.05	1.18	0.00	1.57	1.38	2.05	2.83	3.69	1.92	2.09
50 or more	2.39	1.15	0.00	0.47	5.06	2.55	2.16	3.18	4.84	2.59
Percent 35 or more	2.72	2.54	2.16	3.15	6.53	4.68	4.04	5.68	4.07	3.28
Marital status										
Percent married	2.27	2.47	4.17	3.90	4.44	4.48	4.14	6.29	3.78	3.29
Dependents										
Percent with any	2.10	2.55	1.86	3.73	5.69	3.53	3.99	6.49	4.50	3.44
Percent with any less than 5 years	1.44	1.59	1.39	1.65	8.39	2.96	2.64	3.45	2.13	3.29
Income/salary*										
Base year salary	298.8	238.7	364.6	329.1	570.2	529.8	640.2	781.1	502.2	440.2
Total year round income	421.1	267.8	791.7	433.8	1,273.0	645.4	806.7	854.7	594.9	535.0
Percent moonlighting	2.67	2.16	3.78	3.74	7.56	4.70	3.44	6.09	5.22	3.99
Family income**										
Percent less than $25,000	2.83	2.64	6.27	4.44	8.20	5.43	4.70	7.19	4.26	2.83
Percent $25,000 but less than $50,000	2.51	2.71	3.10	4.41	5.31	4.81	4.57	6.02	3.93	3.34
Percent $50,000 or more	1.58	2.14	3.40	3.21	2.96	3.93	3.55	5.19	3.02	3.46

*1988 dollars adjusted to 1991 dollars using Consumer Price Index.
**1988 dollars are not adjusted to 1991.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987–88 and 1990–91 (Teacher Questionnaire).

Table 5A.--Standard errors for selected demographic characteristics of newly hired and total public and private school teachers: 1990–91

Characteristics	Public		Private	
	New hires	All	New hires	All
Percent female	0.95	0.31	1.79	0.74
Percent minority	0.84	0.29	0.95	0.46
Mean age	0.28	0.08	0.46	0.17

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1990–91 (Teacher Questionnaire)

Table 6A.--Standard errors for percent of newly hired public and private school teachers, by supply source, highest degree earned, and average years of teaching experience: 1987-88 and 1990-91

Characteristics	Total		Newly prepared		Delayed entrants		Transfers		Reentrants	
	1987-88	1990-91	1987-88	1990-91	1987-88	1990-91	1987-88	1990-91	1987-88	1990-91
Public										
BA/BS or less	0.97	1.38	1.88	1.00	2.37	2.88	2.92	3.23	1.71	3.21
MA/MS or more	0.97	1.38	1.88	1.00	2.37	2.88	2.92	3.23	1.71	3.21
MA/MS	0.89	1.38	1.83	0.99	2.01	2.90	2.52	3.19	1.67	2.92
Ed. Spec.	0.44	0.73	0.44	0.71	0.72	0.28	0.94	1.98	0.96	1.95
PhD/FPD	0.27	0.26	0.00	0.22	--	0.64	--	--	0.46	0.49
Years teaching experience	NA	NA	NA	NA	NA	NA	0.44	0.48	0.23	0.46
Total number										
Private										
BA/BS or less	2.25	1.73	2.31	2.71	4.51	3.12	4.14	5.23	3.60	3.41
MA/MS or more	2.25	1.73	2.31	2.71	4.51	3.12	4.14	5.23	3.60	3.41
MA/MS	2.30	1.63	2.28	2.66	4.52	2.67	4.14	4.64	3.89	3.40
Ed. Spec.	0.65	0.87	--	0.51	--	0.27	1.68	2.55	1.00	1.75
PhD/FPD	0.61	0.49	--	--	--	--	--	--	1.35	0.81
Years teaching experience	NA	NA	NA	NA	NA	NA	0.76	0.77	1.36	0.53
Total number										

-- Too few sample cases for a reliable estimate.
NA = Not applicable.
NOTE. Percents may not add to 100 due to rounding.

SOURCE. U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987-88 and 1990-91 (Teacher Questionnaire).

Table 7A.--Standard errors for percentage distribution of newly hired public and private school teachers, by supply source and by various qualifications in primary assignment field: 1987–88 and 1990–91

Characteristics	Total		Newly prepared		Delayed entrants		Transfers		Reentrants	
	1987–88	1990–91	1987–88	1990–91	1987–88	1990–91	1987–88	1990–91	1987–88	1990–91
Public										
Major/minor With certification	1.44	1.50	2.21	2.50	4.21	2.90	2.73	3.80	2.35	2.96
Certified only	1.18	1.13	1.40	1.74	3.12	2.64	2.55	2.93	1.83	2.24
Major/minor Without certification	1.13	0.75	1.92	1.33	3.40	2.44	3.24	2.82	1.71	1.56
None of the above	0.74	0.79	1.21	1.33	3.00	2.55	1.36	2.21	0.91	1.22
Total certified	1.41	0.99	2.14	1.83	4.63	2.89	3.40	3.36	1.72	1.94
Total major or minor	1.26	1.27	1.45	2.18	3.56	2.82	2.89	3.49	2.08	2.95
Temporary/emergency certification	1.25	1.01	2.12	1.69	3.93	3.53	2.84	3.35	1.31	1.36
Private										
Major/minor With certification	2.67	1.90	4.00	3.49	3.55	4.48	5.03	4.26	5.01	2.63
Certified only	1.26	1.33	1.28	2.92	3.41	2.75	3.17	3.01	1.75	2.61
Major/minor Without certification	2.54	1.68	4.22	2.87	7.14	3.94	4.21	4.21	4.49	3.82
None of the above	1.97	1.62	3.24	3.39	8.05	4.96	2.84	3.75	2.32	2.18
Total certified	2.36	1.84	4.06	3.66	5.07	4.99	4.41	4.35	4.73	3.36
Total major or minor	2.04	2.01	3.52	3.90	7.58	5.02	4.44	4.50	2.82	3.19
Temporary/emergency certification	1.02	1.88	3.13	2.90	1.21	3.41	1.70	4.38	1.77	3.66

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987–88 and 1990–91 (Teacher Questionnaire).

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Table 8A.--Standard errors for percentage distribution of newly hired public and private school teachers, by supply source and by prior year activity: 1987-88 and 1990-91

Activity	Newly prepared		Delayed entrants		Transfers		Reentrants	
	1987-88	1990-91	1987-88	1990-91	1987-88	1990-91	1987-88	1990-91
Public								
Teaching total								
Public, other state	NA	NA	NA	NA	2.84	4.39	NA	NA
Private, any state	NA	NA	NA	NA	2.84	4.39	NA	NA
Postsecondary	NA	0.09	1.52	0.80	NA	NA	0.68	1.11
Pre school	++	0.22	++	0.94	NA	NA	++	1.01
Substitute	++	0.66	++	3.33	NA	NA	++	2.65
Working non-teaching	0.58	1.02	3.32	3.39	NA	NA	1.62	3.21
In education	0.43	1.02	2.74	1.56	NA	NA	1.00	3.30
Outside education	0.29	0.90	3.25	3.32	NA	NA	1.15	1.72
College	0.98	1.43	0.00	0.90	NA	NA	1.78	1.64
					NA	NA		
Home/child	--	--	2.49	1.94	NA	NA	2.14	3.01
Other	0.81	--	3.86	1.56	NA	NA	1.72	0.68
Number of new hires	1,200.2	2,168.4	1,118.3	2,052.2	1,667.1	1,782.5	1,877.5	2,613.7
Private								
Teaching total								
Public, any state	0.00	0.00	0.00	0.00	4.57	5.46	0.00	0.00
Private, other state	0.00	0.00	0.00	0.00	4.57	5.46	0.00	0.00
Postsecondary	0.00	--	--	2.01	0.00	0.00	0.88	1.66
Pre school	++	--	++	1.10	++	0.00	++	1.47
Substitute	++	1.09	++	4.85	++	0.00	++	2.48
Working non-teaching	1.82	1.97	7.05	5.29	0.00	0.00	3.69	3.80
In education	--	1.36	2.97	2.59	0.00	0.00	2.17	1.92
Outside education	1.71	1.46	6.96	5.39	0.00	0.00	2.83	3.65
College	2.13	2.37	0.00	0.00	0.00	0.00	3.01	1.28
Home/child	--	0.00	7.75	3.34	0.00	0.00	3.20	3.67
Other	0.84	0.00	3.69	1.31	0.00	0.00	4.23	1.45
Number of new hires	652.6	874.5	505.5	698.0	901.1	992.1	1,386.8	1,372.9

-- Too few sample cases for a reliable estimate.
NA = Not applicable.
++Not collected in 1987-88.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987-88 and 1990-91 (Teacher Questionnaire).

Table 9A.--Standard errors for percentage distribution of newly hired public and private teachers by supply source and by prior year occupation: 1987–88 and 1990–91*

Characteristics	Newly prepared		Delayed entrants		Reentrants	
	1987–88	1990–91	1987–88	1990–91	1987–88	1990–91
Public						
Occupations in education						
School professional	12.65	14.01	4.71	8.58	5.86	#
Teachers aide	11.95	14.01	7.75	9.00	5.56	#
Other staff	10.27	0.00	8.65	5.52	4.81	#
Total number	416.2	346.3	476.7	447.2	554.5	#
Occupations outside education						
Professional (Mgr., Scientific)	11.51	--	6.56	6.51	3.98	#
Support (Tech., Sales, Admin.)	11.95	17.59	6.20	7.04	4.23	#
All other (Services, Mechanical, Construction, Farming)	8.88	15.55	3.55	5.80	2.94	#
Total number	323.8	326.1	509.5	953.2	665.4	#
Private						
Occupations in education						
School professional	--	--	16.47	11.17	12.23	#
Teachers aide	17.80	39.23	13.65	11.11	13.64	#
Other staff	--	--	8.46	6.34	6.77	#
Total number	78.5	68.5	196.7	314.6	413.2	#
Occupations outside education						
Professional (Mgr., Scientific)	24.63	11.10	10.25	6.17	8.03	#
Support (Tech., Sales, Admin.)	22.34	14.04	8.32	7.04	8.54	#
All other (Services, Mechanical, Construction, Farming)	--	16.07	8.71	5.41	4.41	#
Total number	209.7	329.2	452.7	557.5	500.2	#

-- Too few sample cases for a reliable estimate.
*Includes only those who transferred from other occupations.
Data not available.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987–88 and 1990–91 (Teacher Questionnaire).

Additional Resources on the Schools and Staffing Survey (SASS)

The following SASS data products may be obtained free of charge while supplies last from:

U.S. Department of Education
National Center for Education Statistics
SASS Data Products
555 New Jersey Avenue, NW, Room 422
Washington, DC 20208-5651

SASS Information Booklet

A 16-page overview of the Schools and Staffing Survey is available.

Reports

- Schools and Staffing in the United States: A Statistical Profile, 1990-91 (NCES 93-146)
- Schools and Staffing in the United States: A Statistical Profile, 1987-88 (NCES 92-120)
- America's Teachers: Profile of a Profession (NCES 93-025)
- Schools and Staffing Survey by State (NCES 94-343)
- Schools and Staffing in the United States: Selected Data for Public and Private Schools, 1993-94 (E.D. Tab, NCES 95-191)
- Schools and Staffing in the United States: Selected Data for Public and Private Schools, 1990-91 (E.D. Tab, NCES 93-453)
- Selected Tables on Teacher Supply and Demand (E.D. Tab, NCES 93-141)
- Characteristics of Stayers, Movers, and Leavers: Results from the Teacher Followup Survey, 1991-92 (E.D. Tab, NCES 94-337)
- Characteristics of Stayers, Movers, and Leavers: Results from the Teacher Followup Survey, 1988-89 (E.D. Tab, NCES 91-128)
- Qualifications of the Public School Teacher Workforce: 1988 and 1991 (NCES 94-665)
- Private Schools in the United States: A Statistical Profile, 1990-91 (NCES 95-330)

Reports (*continued*)

- Characteristics of American Indian and Alaska Native Education, Results from the 1990-91 SASS (NCES 95-735)
- Private School Universe Survey, 1991-92 (NCES 94-350)
- Private School Universe Survey, 1989-90 (NCES 93-122)
- Teacher Supply, Teacher Qualifications and Teacher Turnover, Aspects of Teacher Supply and Demand in the U.S., 1990-91 (NCES 95-744)

Issue Briefs

- Migration and Attrition of Public and Private School Teachers: 1991-92 (Issue Brief, NCES 95-770
- Private School Graduation Requirements (Issue Brief, NCES 95-145)
- How Much Time Do Public and Private School Teachers Spend in Their Work? (Issue Brief, NCES 95-709)
- Sources of Newly Hired Teachers in Public and Private Schools, 1988-91 (Issue Brief, NCES 94-481)
- Public and Private School Principals: Are There Too Few Women? (Issue Brief, NCES 94-192)
- Teaching and Administrative Work Experience of Public School Principals (Issue Brief, NCES 93-452)
- Teacher Salaries: Are They Competitive? (Issue Brief, NCES 93-450)
- What are the Most Serious Problems in Schools? (Issue Brief, NCES 93-149)
- Teacher Attrition and Migration (Issue Brief, NCES 92-148)

Video

- Americas Teachers: Profile of a Profession

Methods

- A Quality Profile for SASS: Aspects of the Quality of Data in the Schools and Staffing Survey (Methodological Report, NCES 94-340)

Methods *(continued)*

- 1987-88 Schools and Staffing Survey: Sample Design and Estimation (Technical Report, NCES 91-127)
- 1990-91 Schools and Staffing Survey: Sample Design and Estimation (Technical Report, NCES 93-449)
- Modeling Teacher Supply and Demand, with Commentary (Research and Development Report, NCES 93-461)

CD-ROMs

- Schools and Staffing Survey: 1993-94 Electronic Codebook and Public Use Data (NCES 95-808)
- Schools and Staffing Survey: 1990-91 Electronic Codebook and Public Use Data
- Schools and Staffing Survey, 1987-88 Microdata and Documentation

Questionnaires

- SASS and PSS Questionnaires 1993-1994 (NCES 94-674)
- SASS and TFS Questionnaires 1990-1991
- SASS and TFS Questionnaires 1987-1988

User's Manuals

- 1990-91 Schools and Staffing Survey: Data File User's Manual Volume I: Survey Documentation (NCES 93-144-I)
- 1990-91 Schools and Staffing Survey: Data File User's Manual Volume II: Restricted-Use codebook (NCES 93-144-II)
- 1990-91 Schools and Staffing Survey: Data File User's Manual Volume III: Public-Use codebook (NCES 93-144-III)
- 1990-91 Schools and Staffing Survey: Data File User's Manual Volume IV: Bureau of Indian Affairs (BIA) Restricted-Use Codebooks: Administrator, Schools, and Teachers (NCES 93-144-IV)
- 1991-92 Teacher Followup Survey Data File User's Manual: Restricted-Use Version (NCES 94-478)

User's Manuals *(continued)*

- 1991-92 Teacher Followup Survey Data File User's Manual: Public-Use Version (NCES 94-331)

- 1988-89 Teacher Followup Survey Data File User's Manual: Public-Use Version (NCES 92-058)

A list of conference papers and working papers, of a primarily methodological nature, is available upon request at the address listed on page 76.

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